

Patent Claims:

1. An electromagnetic valve with a valve housing accommodating an armature, a magnet core part, a valve closure member and a valve seat, said housing being formed of a first and a second tubular body, with said two tubular bodies with their ends being joined in sections in each other and including a joining portion, with a valve-accommodating member into which the section of the first tubular body remote from the second tubular body is inserted in a pressure-fluid tight manner, with the section of the second tubular body remote from the first tubular body carrying a magnet coil outside the valve-accommodating member,  
c h a r a c t e r i z e d in that the section of the second tubular body (2) facing the first tubular body (1) is secured to the valve-accommodating member (3), and in that the section of the first tubular body (1) facing the second tubular body (2) is inserted into the second tubular body (2) and directed to a stop surface (6) of the second tubular body (2).
2. The electromagnetic valve as claimed in claim 1,  
c h a r a c t e r i z e d in that the end of the second tubular body (2) facing the valve-accommodating member (3) includes a bead (4) that is directed radially outwards and fastened in a stepped bore (5) of the valve-accommodating member.

3. The electromagnetic valve as claimed in claim 2,  
c h a r a c t e r i z e d in that the bead (4) is  
attached in the stepped bore (5) by way of the plastic  
deformation of material of the valve-accommodating member  
(3) that embraces the bead (4).
4. The electromagnetic valve as claimed in claim 1,  
c h a r a c t e r i z e d in that for manufacturing the  
stop surface (6), the second tubular body (2) is provided  
with a housing step (7) having an inside diameter at the  
end of the joining portion (8) of both tubular bodies (1,  
2) that is selected to be smaller than the outside  
diameter of the first tubular body (1) in the area of the  
joining portion (8).
5. The electromagnetic valve as claimed in claim 4,  
c h a r a c t e r i z e d in that the housing step (7)  
is manufactured by means of a plastic deformation of the  
second tubular body (2) in an end area of the joining  
portion (8) being disposed remote from the open end of the  
second tubular body (2).
6. The electromagnetic valve as claimed in claim 5,  
c h a r a c t e r i z e d in that the housing step (7)  
is manufactured by a double crank in the end area of the  
joining portion (8).
7. The electromagnetic valve as claimed in claim 4,  
c h a r a c t e r i z e d in that the first and second  
tubular bodies (1, 2) are comprised of thin-walled  
deepdrawn sleeves being interconnected by a press fit in  
the joining portion (8).

8. The electromagnetic valve as claimed in claim 4,  
c h a r a c t e r i z e d in that the first tubular body (1) is supported with its end remote from the joining portion (8) in a stepped bore (5) of the valve-accommodating member (3) in a pressure-fluid tight manner, with the axial distance (X) between the first tubular body (1) and a bottom of the stepped bore (5) being smaller than the length (L) of the overlapping of both tubular bodies (1, 2) in the area of the joining portion (8).
9. The electromagnetic valve as claimed in claim 5,  
c h a r a c t e r i z e d in that the housing step (7) and/or the bead (4), for the assembly and calking of the second tubular body (2) in the valve-accommodating member (3), receive a hollow-cylindrical calking tool (19) that is supported with its inside shoulder (20) on the housing step (7) and/or with its outside shoulder (21) on the bead (4).
10. The electromagnetic valve as claimed in claim 9,  
c h a r a c t e r i z e d in that the outside periphery of the calking tool (19) is provided with two housing steps (22, 23) adjacent to which is a conical portion (24) in the direction of the plane outside shoulder (21), and in that the second housing step (23) is used to displace the material of the bore step of the valve-accommodating member (3) in the direction of the conical portion (24).
11. The electromagnetic valve as claimed in claim 1,  
c h a r a c t e r i z e d in that the inside diameter of the first tubular body (1) is adapted at least in sections to the outside diameter of the further valve closure member (25) for the purpose of accommodating a further

valve accommodating member (25) corresponding with the valve closure member (11).

12. The electromagnetic valve as claimed in claim 11, characterized in that the further valve closure member (25) is formed of a sleeve bowl guided in the first tubular body (1) having its bowl bottom pressed against the valve seat (12) in a sealing manner by the action of a compression spring (14) in the basic position.
13. The electromagnetic valve as claimed in claim 12, characterized in that the bowl bottom contains an opening (27) which is delimited by a further valve seat (26) and closed by the valve closure member (11) in the valve's basic position.
14. The electromagnetic valve as claimed in claim 11, characterized in that the first tubular body (1) includes a spring stop (28) for supporting a further compression spring (29) that is compressed between the spring stop (28) and the further valve closure member (25), and in that the further compression spring (29) counteracts the compression spring (14) that is interposed between the armature (9) and the magnet core part (10).
15. The electromagnetic valve as claimed in claim 14, characterized in that the further valve closure member (25) at its sleeve end remote from the bowl bottom is bent at angles in a radially outward direction to form a collar (30) on which the one end of the further compression spring (29) is supported.

16. The electromagnetic valve as claimed in claim 14,  
c h a r a c t e r i z e d in that the spring stop (28)  
is formed directly by way of a shoulder of the first  
tubular body (1) constricted like a step.
17. The electromagnetic valve as claimed in claim 14,  
c h a r a c t e r i z e d in that the spring stop (28)  
is either designed as a guiding sleeve that is inserted  
separately into the first tubular body (1), or as a flat  
disc through which the further valve closure member (25)  
extends in the direction of the valve seat (12).